

Cutting with the Water-Jet

Creating Your Design

- Choose your design tool, CorelDraw is an easy one
- Create your design, and export it as a .dxf file
- Use OMAX Layout for drawing the part
 - The units for the drawing are at the top right of the program window
- Use OMAX Make for getting the design ready to cut when you are at the waterjet

OMAX software

- Grab the OMAX software from the NEMO computer on the windows network
- Open up the OMAX shortcut it created on your desktop

Prepare Your Design For Cutting (in Omax Layout)

- Use the File->Open command to open your .dxf file
- Set the quality of cut you want
 - Right-Click on the big "Q" button, select "all"
 - Choose your quality (1 is coarse, 5 is fine), 3 usually works fine
 - Select "Clean" on right side of program window, use default settings (0,0,0)
- Set up the traverses needed to make the cut
 - Right-Click on the "Lead I/O" button
 - Select "AutoPath (Quick)"
 - The green lines are traverses (not cuts), orange lines are cutting ("warm-up" for the waterjet)
- Set up the path for the jet
 - Right-Click on the "Path" button (on right)
 - Select "Automatically Generate"
 - Click at the start of a traverse (green), where you want it to start
 - It generates the path for your approval
 - Check to make sure it looks allright (the path is the dark red line)
 - Hit save to accept it
- Export the design
 - Stick in a floppy or USB drive
 - Select File->Transfer Path and Drawing->to 3.5" Floppy

Prepare the Pump to Use

- Turn on water
- It will probably be on, if not, turn the big switch on the right of the computer housing to the "On" position

- Rotate the switch on the left of the pump (to the left of the computer housing) twice
- Place your material on the bed and clamp or weight it down
- Check the abrasive to make sure it is at least half full
- Check the abrasive feeding tube to make sure it is clear/white

Set up Your Design for Cutting

- Lift the cover and insert your diskette
- Click the Omax Make button
- Hit open and select the .ORD file from your diskette
- Enter the appropriate machinability rating (just select your material) and thickness

Set Up the Cutter For Your Design

- Use the keyboard arrows to move the head till you are at your zero point
- Click the "Set UZ" button to set the coordinate zero point, or just hit "set zero" for both the X and Y axis
- Set up the nozzle (zeroing the z-position)
 - Unlock the nozzle height adjustment with the black handle on the side
 - Tighten down the main nozzle till it locks using the winder/small wheel on top
 - Keep going till it makes contact (it becomes loose)
 - Turn it back until you are out of the "loose section", and turn it back half a turn more
 - Lock down the black handle on the side

Cut It

- ~~Hit the begin button~~
- ~~Hit run once~~
- Raise the H2O till about 1/2 inch above your material
- Hit the "begin machining" button
- Right-click on "Start" and select dry run at 1/4 speed to see how the waterjet will cut the part
- Hit the start button when things look ok
 - The space bar will pause your design, or use emergency stop
- For parts that take a long time, you may need to raise the water level during machining, or if the waterjet is leaking a lot

Clean up

- Turn off water